(FILE 'HOME' ENTERED AT 17:14:56 ON 01 APR 2004)

```
FILE 'REGISTRY' ENTERED AT 17:15:04 ON 01 APR 2004
              1 S ISOPULEGOL/CN
L1
L2
              1 S L1
L3
                STRUCTURE UPLOADED
L4
              1 S L3
L5
             16 S L3 FUL
     FILE 'CAPLUS, USPATFULL, CA, CAOLD' ENTERED AT 17:30:43 ON 01 APR 2004
     FILE 'REGISTRY' ENTERED AT 17:30:56 ON 01 APR 2004
L6
              1 S CITRONELLAL/CN
L7
                STRUCTURE UPLOADED
             0 S L7
L8
L9
             36 S L7 FUL
L10
              1 S 3,7-DIMETHYL-6-OCTENAL/CN
L11
                STRUCTURE UPLOADED
L12
              0 S L11
              7 S L11 FUL
L13
              1 S 2385-77-5/RN
L14
L15
              1 S 5949-05-3/RN
     FILE 'CAPLUS, USPATFULL, CA, CAOLD' ENTERED AT 17:46:14 ON 01 APR 2004
           1340 S L1
L16
           5584 S L6
L17
L18
            470 S L16 AND L17
L19
             27 S L18 AND ?ALUMINUM?
             12 S L19 AND ?PHENOXY?
L20
L21
             6 DUP REM L20 (6 DUPLICATES REMOVED)
L22
           556 S L5 AND L6
L23
             34 S L22 AND ?ALUMINUM?
L24
             13 S L23 AND ?PHENOXY?
             7 S L24 NOT L21
L25
             5 DUP REM L25 (2 DUPLICATES REMOVED)
L26
L27
            92 S L5 AND L14
L28
             5 S L27 AND ?ALUMINUM?
             3 S L28 NOT L21
L29
L30
             2 S L29 NOT L26
L31
             1 DUP REM L30 (1 DUPLICATE REMOVED)
L32
             22 S L5 AND L15
L33
             20 S L32 NOT L21
L34
             19 S L33 NOT L26
L35
             19 S L34 NOT L30
L36
             0 S L35 AND ?ALUMINUM?
L37
             1 S L35 AND ?PHENOXY?
L38
             10 DUP REM L35 (9 DUPLICATES REMOVED)
L39
             9 S L38 NOT L37
     FILE 'CASREACT' ENTERED AT 18:04:55 ON 01 APR 2004
L40
               STRUCTURE UPLOADED
L41
              2 S L40
L42
             35 S L40 FUL
L43
             33 S L42 NOT L41
L44
             33 DUP REM L43 (0 DUPLICATES REMOVED)
L45
             33 S L44
             4 S L44 AND ?ALUMINUM?
L46
L47
             29 S L45 NOT L46
```

```
L21
      ANSWER 1 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 1
      2003:696714
                      CAPLUS
AN
DN
      139:235048
TI
      Perfume compositions containing surfactants
      Yang, Lin; Kerschner, Judith Lynne
IN
PA
      Unilever PLC, UK; Unilever NV; Hindustan Lever Limited
SO
      PCT Int. Appl., 69 pp.
      CODEN: PIXXD2
DT
      Patent
LA
      English
FAN.CNT 1
      PATENT NO.
                            KIND DATE
                                                      APPLICATION NO.
                                                                             DATE
                            _ _ _ _
PI
      WO 2003072078
                                    20030904
                                                      WO 2003-EP1692
                            A1
                                                                             20030219
               AE, AG, AL, AM, AT, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH,
                CN, CO, CR, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EC, EE, EE, ES, FI, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW,
                AM, AZ, BY, KG
           RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,
                ML, MR, NE, SN, TD, TG
      US 2003166499
                             Α1
                                    20030904
                                                       US 2002-85736
                                                                             20020228
PRAI US 2002-85736
                             Α
                                    20020228
      The present invention relates to compns. having a fragrance burst of at
      least 20% relative to a product before dilution The composition is selected
such
      that perfume and surfactant in the composition yields a calculated Perfume
Burst
      Index (PBI) value of < 3 as per algorithm defining the PBI. Thus, both
      the single perfume and the perfume mixture in a sodium laurate product have
      higher sensory scores for the 10-times diluted solution compared to the
      original undild. formulations.
IT
      89-79-2, Isopulegol 106-23-0, Citronellal
      RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
          (perfume compns. containing surfactants)
RN
      89-79-2 CAPLUS
      Cyclohexanol, 5-methyl-2-(1-methylethenyl)-, (1R,2S,5R)- (9CI)
CN
      NAME)
```

Absolute stereochemistry. Rotation (-).

RN 106-23-0 CAPLUS CN 6-Octenal, 3,7-dimethyl- (8CI, 9CI) (CA INDEX NAME)

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 2 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 2

2003:696508 CAPLUS AN

DN139:235014

Process for making perfume-containing surfactant compositions having TIperfume burst when diluted

Yang, Lin; Kerschner, Judith Lynne IN

PΑ Unilever Home & Personal Care USA, USA

U.S. Pat. Appl. Publ., 24 pp. SO CODEN: USXXCO

DTPatent

English LA

FAN.CNT 1

ΡI

PATENT NO. KIND DATE APPLICATION NO. DATE _ _ _ _ US 2003166498 A1 20030904 US 2002-85721 20020228 PRAI US 2002-85721 20020228

The present invention relates to a process for preparing or selecting compns., e.g., personal wash compns., having a fragrance burst of at least 20% relative to a product before dilution The composition is selected such that

perfume and surfactant in said composition yields a calculated Perfume Burst Index

(PBI) value of at least 3.0 as per algorithm defining the PBI. For example, two perfumes with PBI of .apprx.700 and .apprx.12 with varying surfactant concentration (surfactant CMC = 0.005 weight/weight) were tested. With a

lower surfactant concentration in the original formulation, the initial fragrance

concentration above the product will be higher (e.g., because fewer fragrance mols. are in surfactant micelles) and maximum fragrance burst can be reached with fewer dilns. This is especially important, because the actual amount of dilution that typically occurs during product use is variable depending on the type of product and the consumer's habits. If the fragrance burst occurs with minimal dilution, the effect is more likely to be noticed by the product user. The other distinct advantage of products with low surfactant levels is that the absolute amount of fragrance available during the fragrance burst is greater, therefore the consumer will experience more fragrance during product use.

IT**89-79-2**, Isopulegol **106-23-0**, Citronellal RL: COS (Cosmetic use); PRP (Properties); BIOL (Biological study); USES (Uses)

(perfume-containing surfactant compns. having perfume burst when diluted)

RN89-79-2 CAPLUS

CNCyclohexanol, 5-methyl-2-(1-methylethenyl)-, (1R,2S,5R)- (9CI) (CA INDEX

Absolute stereochemistry. Rotation (-).

RN 106-23-0 CAPLUS

CN6-Octenal, 3,7-dimethyl- (8CI, 9CI) (CA INDEX NAME) L21ANSWER 3 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 3

2003:696507 CAPLUS AN

DN 139:235013

TΤ Process for making perfume-containing surfactant compositions having perfume burst and enhanced perfume deposition when diluted

IN Yang, Lin; Kerschner, Judith Lynne

PA Unilever Home & Personal Care USA, USA

U.S. Pat. Appl. Publ., 28 pp. SO CODEN: USXXCO

DT Patent

LA English

FAN.CNT 1

PΤ

PATENT NO. KIND DATE APPLICATION NO. _ _ _ _ _____ -----US 2003166497 Α1 20030904 US 2002-84907 20020228 PRAI US 2002-84907 20020228

AB The present invention relates to a process for preparing or selecting compns., e.g., personal cleansing compns., having a fragrance burst of at least 20% relative to a product before dilution as well as enhanced deposition. The composition is selected such that perfume and surfactant in said composition yields a calculated "Perfume Burst Index" (PBI) value of at least

3.0 as per algorithm defining the PBI. For example, to achieve a small, but potentially noticeable maximum fragrance burst of 20% from a product containing surfactant, the PBI of the perfume should be greater than about 3.0. To produce a 50% enhancement of the fragrance, the PBI needs to be greater than about 11 and to double the amount of fragrance upon use, the PBI should be greater than about 27. The PBI can be calculated for any desired perfume mol. in a surfactant system.

IT **89-79-2**, Isopulegol **106-23-0**, Citronellal

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses) (perfume-containing surfactant compns. having perfume burst and enhanced perfume deposition when diluted)

RN89-79-2 CAPLUS

CNCyclohexanol, 5-methyl-2-(1-methylethenyl)-, (1R,2S,5R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN106-23-0 CAPLUS

6-Octenal, 3,7-dimethyl- (8CI, 9CI) (CA INDEX NAME) CN

L21 ANSWER 4 OF 6 USPATFULL on STN

AN 2003:238341 USPATFULL

TI Perfume containing surfactant compositions having perfume burst when diluted

IN Yang, Lin, Fort Lee, NJ, UNITED STATES

Kerschner, Judith Lynne, Hawthorne, NJ, UNITED STATES

PA Unilever Home & Personal Care USA, Division of Conopco, Inc. (U.S. corporation)

PI US 2003166499 A1 20030904

AI US 2002-85736 A1 20020228 (10)

DT Utility

FS APPLICATION

LREP UNILEVER, PATENT DEPARTMENT, 45 RIVER ROAD, EDGEWATER, NJ. 07020

CLMN Number of Claims: 9
ECL Exemplary Claim: 1
DRWN 11 Drawing Page(s)

LN.CNT 1054

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to compositions having a fragrance burst of at least 20% relative to a product before dilution. The composition is selected such that perfume and surfactant in said composition yields a calculated "Perfume Burst Index" (PBI) value of less than 3 as per algorithm defining the PBI.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 89-79-2, Isopulegol 106-23-0, Citronellal

(perfume compns. containing surfactants)

RN 89-79-2 USPATFULL

CN Cyclohexanol, 5-methyl-2-(1-methylethenyl)-, (1R,2S,5R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 106-23-0 USPATFULL

CN 6-Octenal, 3,7-dimethyl- (8CI, 9CI) (CA INDEX NAME)

$$\begin{array}{c} \text{Me} \\ | \\ \text{OHC-} \text{ CH}_2\text{--} \text{CH-} \text{CH}_2\text{--} \text{CH}_2\text{---} \text{CMe}_2 \end{array}$$

L21 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 4

AN 2002:553086 CAPLUS

DN 137:124927

TI Process for producing isopulegol by citronellal selective cyclization over tris(2,6-diarylphenoxy)aluminum catalysts

IN Iwata, Takeshi; Okeda, Yoshiki; Hori, Yoji

PA Takasago International Corporation, Japan

SO Eur. Pat. Appl., 15 pp. CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT	NO.		KIN	1D	DATE			AI	PLIC	CATIO	ON NC	o. :	DATE			
												·					
ΡI	EP 1225	163		A2	2	2002	0724		EI	200	02-46	64		20020	0108		
	EP 1225	163		A3	3	2004	0114										
	R:	ΑT,	BE,	CH,	DE,	DK,	ES,	FR,	GB,	GR,	IT,	LI,	LU,	ΝL,	SE,	MC,	PT,
		ΙE,	SI,	LT,	LV,	FI,	RO,	MK,	CY,	AL,	TR						
	JP 2002	21212	21	A2	2	2002	0731		JI	200	01-10	0527		2001	0118		
	US 2002	13304		A1		2002	0919		US	200	02-45	5157		20020	0115		
PRAI	JP 2001	-1052	27	Α		2001	0118										
os	CASREAC	T 137	7:124	1927;	MA	RPAT	137	:1249	927								
GI																	

AB A process for producing L-isopulegol by simple operations with safety in high yield. A process for producing isopulegol, which comprises selectively cyclizing citronellal in the presence of a tris(2,6-diarylphenoxy)aluminum catalyst represented by the following general formula (I): wherein Al represents an aluminum atom, Ar1 and Ar2 each represent a substituted or unsubstituted aryl group or a heteroaryl group; and R1, R2 and R3 each represent a hydrogen atom, a halogen atom, an alkyl group having 1 to 8 carbon atom(s), an alkoxy group having 1 to 8 carbon atom(s), a substituted or unsubstituted aryl group, a dialkylamino group having 1 to 4 carbon atom(s), or a nitro group.

IT 89-79-2P

RL: IMF (Industrial manufacture); PREP (Preparation) (process for producing isopulegol by citronellal selective cyclization over in situ formed tris(2,6-diarylphenoxy)aluminum catalysts)

RN 89-79-2 CAPLUS

CN Cyclohexanol, 5-methyl-2-(1-methylethenyl)-, (1R,2S,5R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

IT 106-23-0, Citronellal

RL: RCT (Reactant); RACT (Reactant or reagent)
(process for producing isopulegol by citronellal selective cyclization
over in situ formed tris(2,6-diarylphenoxy)aluminum
catalysts)

RN 106-23-0 CAPLUS

CN 6-Octenal, 3,7-dimethyl- (8CI, 9CI) (CA INDEX NAME)

Me | OHC-CH₂--CH-CH₂--CH₂--CH=--CMe₂

L21 ANSWER 6 OF 6 USPATFULL on STN

AN 2002:243852 USPATFULL

TI Process for producing isopulegol
IN Iwata, Takeshi, Kanagawa, JAPAN
Okeda, Yoshiki, Kanagawa, JAPAN

Hori, Yoji, Kanagawa, JAPAN

PA Takasago International Corporation, Ohta-ku, JAPAN (non-U.S.

corporation)

PI US 2002133046 A1 20020919

AI US 2002-45157 A1 20020115 (10)

PRAI JP 2001-10527 20010118

DT Utility

FS APPLICATION

LREP FITZPATRICK CELLA HARPER & SCINTO, 30 ROCKEFELLER PLAZA, NEW YORK, NY, 10112

CLMN Number of Claims: 3

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 639

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A process for producing l-isopulegol by simple operations with safety in high yield. A process for producing isopulegol, which comprises selectively cyclizing citronellal in the presence of a tris(2,6-diarylphenoxy)aluminum catalyst represented by the following general formula (3): ##STR1##

wherein Al represents an **aluminum** atom, Ar.sup.1 and Ar.sup.2 each represent a substituted or unsubstituted aryl group or a heteroaryl group; and R.sup.1, R.sup.2 and R.sup.3 each represent a hydrogen atom, a halogen atom, an alkyl group having 1 to 8 carbon atom(s), an alkoxy group having 1 to 8 carbon atom(s), a substituted or unsubstituted aryl group, a dialkylamino group having 1 to 4 carbon atom(s), or a nitro group.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 89-79-2P

(process for producing isopulegol by citronellal selective cyclization over in situ formed tris(2,6-diarylphenoxy)aluminum catalysts)

RN 89-79-2 USPATFULL

CN Cyclohexanol, 5-methyl-2-(1-methylethenyl)-, (1R,2S,5R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

IT 106-23-0, Citronellal

(process for producing isopulegol by citronellal selective cyclization over in situ formed tris(2,6-diarylphenoxy)aluminum catalysts)

RN 106-23-0 USPATFULL

CN 6-Octenal, 3,7-dimethyl- (8CI, 9CI) (CA INDEX NAME)

$$\begin{array}{c} \operatorname{Me} \\ \mid \\ \operatorname{OHC-CH_2-CH-CH_2-CH_2-CH---} \operatorname{CMe_2} \end{array}$$

```
DUPLICATE 1
L26 ANSWER 1 OF 5 USPATFULL on STN
       2003:238340 USPATFULL
ΑN
       Process for making perfume containing surfactant compositions having
TI
       perfume burst when diluted
       Yang, Lin, Fort Lee, NJ, UNITED STATES
IN
       Kerschner, Judith Lynne, Hawthorne, NJ, UNITED STATES
       Unilever Home & Personal Care USA, Division of Conopco, Inc. (U.S.
PA
       corporation)
PΙ
       US 2003166498
                          A1
                               20030904
       US 2002-85721
                               20020228 (10)
AΙ
                          Α1
DT
       Utility
FS
       APPLICATION
       UNILEVER, PATENT DEPARTMENT, 45 RIVER ROAD, EDGEWATER, NJ, 07020
LREP
       Number of Claims: 11
CLMN
       Exemplary Claim: 1
ECL
DRWN
       12 Drawing Page(s)
LN.CNT 1067
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
       The present invention relates to a process for preparing or selecting
       compositions having a fragrance burst of at least 20% relative to a
       product before dilution. The composition is selected such that perfume
       and surfactant in said composition yields a calculated "Perfume Burst
       Index" (PBI) value of less than 3 as per algorithm defining the PBI.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
L26 ANSWER 2 OF 5 USPATFULL on STN
                                                        DUPLICATE 2
       2003:238339 USPATFULL
AN
       Process for making perfume containing surfactant compositions having
TI
       perfume burst and enhanced perfume deposition when diluted
IN
       Yang, Lin, Fort Lee, NJ, UNITED STATES
       Kerschner, Judith Lynne, Hawthorne, NJ, UNITED STATES
       Unilever Home & Personal Care USA, Division of Conopco, Inc. (U.S.
PΆ
       corporation)
       US 2003166497
PΤ
                          Α1
                               20030904
       US 2002-84907
                         A1
                               20020228 (10)
ΑI
DТ
       Utility
FS
       APPLICATION
       UNILEVER, PATENT DEPARTMENT, 45 RIVER ROAD, EDGEWATER, NJ, 07020
LREP
       Number of Claims: 11
CLMN
ECL
       Exemplary Claim: 1
       15 Drawing Page(s)
DRWN
LN.CNT 1158
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
       The present invention relates to a process for preparing or selecting
       compositions having a fragrance burst of at least 20% relative to a
       product before dilution as well as enhanced deposition. The composition
       is selected such that perfume and surfactant in said composition yields
       a calculated "Perfume Burst Index" (PBI) value of less than 3 as per
       algorithm defining the PBI.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
L26
    ANSWER 3 OF 5 USPATFULL on STN
ΑN
       2003:47867 USPATFULL
TΙ
       Oxime carboxylic acid derivative precursors
IN
       Anderson, Denise, Zurich, SWITZERLAND
       Frater, Georg, Winterthur, SWITZERLAND
PA
       Givaudan AG, Dubendorf, SWITZERLAND (non-U.S. corporation)
PΙ
       US 6521797
                               20030218
                        В1
ΑI
       US 1999-376776
                               19990817 (9)
PRAI
       EP 1998-115403
                         19980817
       Utility
```

GRANTED FS

EXNAM Primary Examiner: Solola, T. A.

Parfomak, Andrew N., Norris, McLaughlin & Marcus, P.A. LREP

Number of Claims: 1 CLMN ECL Exemplary Claim: 1

DRWN 0 Drawing Figure(s); 0 Drawing Page(s)

LN.CNT 633

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

The present invention is an oxime carboxylic acid derivative having the formula I: ##STR1##

wherein n is 1 or 0, X is O, R.sup.2 and R.sup.3 being part of an oxime R.sup.2R.sup.3C.dbd.NOH are individually, substituted or unsubstituted, branched or unbranched alkyl-, alkenyl-, akinyl-, cycloalkyl-, cycloalkenyl-, or aromatic radical and contain less than 30 carbon atoms, and R.sup.1 is a substituted or unsubstituted, branched or unbranched alkyl-, alkenyl-, akinyl-, cycloalkyl-, cycloalkenyl-, alkoxyalkyl-, aryloxyaryl-, alkoxyaryl-, aryloxyalkyl-, or aromatic
radical, or X.sub.nR.sup.1 is ##STR2##

which are useful as precursors for the delivery of organoleptic compounds, especially for flavors, fragrances and masking agents, and/or antimicrobial compounds.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L26 ANSWER 4 OF 5 CA COPYRIGHT 2004 ACS on STN

139:235048 CA AN

Perfume compositions containing surfactants TI

Yang, Lin; Kerschner, Judith Lynne IN

Unilever PLC, UK; Unilever NV; Hindustan Lever Limited PA

PCT Int. Appl., 69 pp. SO CODEN: PIXXD2

DТ Patent

LAEnglish

FAN.CNT 1

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PATENT NO.
                     KIND DATE
                                         APPLICATION NO. DATE
                    ----
                          _____
                                         -----
                                                          ------
                     A1
                                        WO 2003-EP1692
PΙ
    WO 2003072078
                           20030904
                                                           20030219
        W: AE, AG, AL, AM, AT, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH,
            CN, CO, CR, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EC, EE, EE, ES,
            FI, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG,
            KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
            MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SK,
            SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW,
            AM, AZ, BY, KG
        RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG,
            CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC,
            NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,
            ML, MR, NE, SN, TD, TG
    US 2003166499
                           20030904
                                          US 2002-85736
                                                           20020228
                     A 1.
```

PRAI US 2002-85736 20020228 Α

The present invention relates to compns. having a fragrance burst of at least 20% relative to a product before dilution The composition is selected such

that perfume and surfactant in the composition yields a calculated Perfume Burst

Index (PBI) value of < 3 as per algorithm defining the PBI. Thus, both the single perfume and the perfume mixture in a sodium laurate product have higher sensory scores for the 10-times diluted solution compared to the original undild. formulations.

THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD RE.CNT 5 ALL CITATIONS AVAILABLE IN THE RE FORMAT

```
ANSWER 5 OF 5 CA COPYRIGHT 2004 ACS on STN
```

ΑN 137:124927 CA

Process for producing isopulegol by citronellal selective cyclization over TItris(2,6-diarylphenoxy)aluminum catalysts

Iwata, Takeshi; Okeda, Yoshiki; Hori, Yoji Takasago International Corporation, Japan IN

PA

SO Eur. Pat. Appl., 15 pp. CODEN: EPXXDW

DTPatent

LΑ English

=>

FAN.	CNT 1 PATENT NO.	KIND DAT	E AP	APPLICATION NO. DATE						
ΡI	EP 1225163	A2 200	20724 EP	2002-464	20020108					
	EP 1225163	A3 200	40114							
	R: AT, BE,	CH, DE, DK	, ES, FR, GB,	GR, IT, LI, LU	, NL, SE, MC,	PT,				
	IE, SI,	LT, LV, FI	, RO, MK, CY, 1	AL, TR						
	JP 2002212121	A2 200	20731 JP	2001-10527	20010118					
	US 2002133046	A1 200	20919 US	2002-45157	20020115					
PRAI	JP 2001-10527	A 200	10118							
os	CASREACT 137:12	4927; MARPA	T 137:124927							
GI										

A process for producing L-isopulegol by simple operations with safety in AB high yield. A process for producing isopulegol, which comprises selectively cyclizing citronellal in the presence of a tris(2,6diarylphenoxy) aluminum catalyst represented by the following general formula (I) : wherein Al represents an aluminum atom, Ar1 and Ar2 each represent a substituted or unsubstituted aryl group or a heteroaryl group; and R1, R2 and R3 each represent a hydrogen atom, a halogen atom, an alkyl group having 1 to 8 carbon atom(s), an alkoxy group having 1 to 8 carbon atom(s), a substituted or unsubstituted aryl group, a dialkylamino group having 1 to 4 carbon atom(s), or a nitro group.

```
ANSWER 1 OF 1 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 1
L31
     2003:945423 CAPLUS
AN
DN
     140:5181
     Preparation of citronellal, isopulegone, and isopulegol from pulegone
ΤI
     Yagi, Misao; Sayo, Noboru
TN
     Takasago Perfumery Co., Ltd., Japan
PA
     Jpn. Kokai Tokkyo Koho, 10 pp.
SO
     CODEN: JKXXAF
DT
     Patent
LΑ
     Japanese
FAN.CNT 1
     PATENT NO.
                      KIND DATE
                                           APPLICATION NO.
                                                            DATE
                      _ _ _ _
                            -----
                                           ______
                                                            -----
                                           JP 2002-155034
PI
     JP 2003342220
                       A2
                            20031203
                                                            20020529
PRAI JP 2002-155034
                            20020529
     Citronellal (I), useful for perfume (no data), is prepared by isomerization
     of pulegone (II) in the presence of catalysts, fractionation of
     isopulegone (III) from the isomerization mixts., hydrogenation of III over
     heterogeneous catalysts, and thermal decomposition of the resulting isopulegol.
     Thus, (5R)-II was isomerized in the presence of NSA 185 (naphthenic acid)
     and CsCO3 at 200° and fractionated to give (2,5R)-III, which was
     hydrogenated over Cu-Cr and thermally decomposed to give (3R)-I with
     95.3%ee.
     7786-67-6P, Cyclohexanol, 5-methyl-2-(1-methylethenyl)-
IT
     628693-74-3P
     RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic
     preparation); PREP (Preparation); RACT (Reactant or reagent)
         (preparation of citronellal for perfumes by isomerization of pulegone,
        hydrogenation of isopulegone, and thermal decomposition of isopulegol)
     7786-67-6 CAPLUS
RN
CN
     Cyclohexanol, 5-methyl-2-(1-methylethenyl)- (9CI) (CA INDEX NAME)
```

RN 628693-74-3 CAPLUS CN Cyclohexanol, 5-methyl-2-(1-methylethenyl)-, (5R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

IT 2385-77-5P

RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)

(preparation of citronellal for perfumes by isomerization of pulegone, hydrogenation of isopulegone, and thermal decomposition of isopulegol)

RN 2385-77-5 CAPLUS

CN 6-Octenal, 3,7-dimethyl-, (3R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

L37 ANSWER 1 OF 1 USPATFULL on STN

AN 2001:182552 USPATFULL

TI Optically active, oxygenated, alicyclic compounds and their use as

perfuming ingredients

IN Margot, Christian, Gilly, Switzerland

PI US 2001031710

A1 20011018

AI US 2001-811958

A1 20010319 (9)

PRAI CH 2000-20000523 20000320

DT Utility

FS APPLICATION

LREP Allan A. Fanucci, WINSTON & STRAWN, 200 Park Avenue, New York, NY,

10166-4193

CLMN Number of Claims: 8

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 1122

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The compounds of the formula ##STR1##

wherein R.sub.1 and R.sub.2 represent, independently from each other, a hydrogen atom or a methyl group and R.sub.3 represents a linear or branched, saturated or unsaturated, lower alkyl radical, in the form of an optically active isomer of the formula ##STR2##

wherein the wavy line indicates one or other of the two possible orientations of the OH group, and mixtures of these isomers can be used to impart fragrances of the woody and amber-scented type, devoid of any animal/perspiration characteristics, to consumer products.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 89-79-2, Isopulegol 5949-05-3, (-)-S-Citronellal

(optically active, oxygenated, alicyclic compds. and their use as perfuming ingredients)

RN 89-79-2 USPATFULL

CN Cyclohexanol, 5-methyl-2-(1-methylethenyl)-, (1R,2S,5R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 5949-05-3 USPATFULL

CN 6-Octenal, 3,7-dimethyl-, (3S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

L39 ANSWER 1 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:643623 CAPLUS

DN 139:307899

TI Biotransformation of Citronellal by Solanum aviculare Suspension Cultures: Preparation of p-Menthane-3,8-diols and Determination of Their Absolute Configurations

AU Vanek, Tomas; Novotny, Michal; Podlipna, Radka; Saman, David; Valterova,

CS Institute of Organic Chemistry and Biochemistry, Academy of Sciences of the Czech Republic, Prague, 166 10, Czech Rep.

SO Journal of Natural Products (2003), 66(9), 1239-1241 CODEN: JNPRDF; ISSN: 0163-3864

PB American Chemical Society

DT Journal

LA English

OS CASREACT 139:307899

AB Citronellal was transformed by Solanum aviculare suspension cultures to menthane-3,8-diols. Cis-Menthane-3,8-diol dominated over the trans-isomer (39% and 15%, resp.). Absolute configurations of menthane-3,8-diols were assigned by critical anal. of 1H and 19F NMR spectra of prepared esters with 2-methoxy-2-phenyl-3,3,3-trifluoropropanoic acid. Citronellol and isopulegol were other products of the transformation (23% and 17%, resp.). The reaction course was identical for both citronellal enantiomers.

IT 89-79-2P, Isopulegol

RL: BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)

(preparation of p-menthane-3,8-diols via biotransformation of citronellal using Solanum aviculare suspension cultures and determination of their absolute

configurations)

RN 89-79-2 CAPLUS

CN Cyclohexanol, 5-methyl-2-(1-methylethenyl)-, (1R,2S,5R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

IT **5949-05-3**, (-)Citronellal

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of p-menthane-3,8-diols via biotransformation of citronellal using Solanum aviculare suspension cultures and determination of their absolute

configurations)

RN 5949-05-3 CAPLUS

CN 6-Octenal, 3,7-dimethyl-, (3S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RE.CNT 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 2 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2001:725094 CAPLUS

DN 136:51244

TI Backhousia citriodora F. Muell.: Rediscovery and chemical characterization of the L-citronellal form and aspects of its breeding system

AU Doran, J. C.; Brophy, J. J.; Lassak, E. V.; House, A. P. N.

CS CSIRO Forestry and Forest Products, Kingston, ACT 2604, Australia

SO Flavour and Fragrance Journal (2001), 16(5), 325-328 CODEN: FFJOED; ISSN: 0882-5734

PB John Wiley & Sons Ltd.

DT Journal

LA English

The rare L-citronellal form of Backhousia citriodora F. Muell. was first reported in 1950, but attempts to relocate it were unsuccessful until 1996. The quest to relocate trees of this type has been driven by interest in L-citronellal for perfumery. The common, citral form of the species is already under cultivation for oil production in Australia. This paper reports on the rediscovery of the L-citronellal form, first in 1996 in a year-old provenance/progeny trial of B. citriodora in southeastern Queensland, and then in a natural population on Queensland's Sunshine Coast in 1998. The three L-citronellal trees in the trial gave foliar oil concns. (g/100 g dry weight) of 3.2, 2.2 and 1.8, resp., when sampled in Nov. 1996. The same trees sampled in Mar. 1999 gave pale yellow oils consisting of 85-89% citronellal, 6-9% isopulegol isomers with small quantities of citronellol (approx. 3%) and several other compds. Data on the physicochem. properties of these oils are given in the paper. Seed from a single mature L-citronellal tree gave progeny of both the L-citronellal and citral form in a ratio of approx. 1:1. Propagation material from many more plants of the L-citronellal form needs to be collected and assembled in breeding populations. This would form the basis of a selection and breeding program, should this chemotype show economic potential.

RN 89-79-2 CAPLUS

CN Cyclohexanol, 5-methyl-2-(1-methylethenyl)-, (1R,2S,5R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 5949-05-3 CAPLUS

CN 6-Octenal, 3,7-dimethyl-, (3S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

```
ANSWER 3 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN
L39
     2001:709681 CAPLUS
ΑN
DN
     135:277773
    Optically active, oxygenated, alicyclic compounds and their use as
TI
    perfuming ingredients
IN
     Margot, Christian
PA
     Firmenich SA, Switz.
     Eur. Pat. Appl., 21 pp.
SO
     CODEN: EPXXDW
DT
     Patent
LΑ
    English
FAN.CNT 1
                      KIND DATE
                                           APPLICATION NO.
     PATENT NO.
                                                            DATE
                      ____
                                           _____
                                           EP 2001-105678
                       A2
                            20010926
                                                            20010307
ΡI
     EP 1136061
                      Α3
                            20031217
    EP 1136061
         R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO
     US 2001031710
                       Α1
                            20011018
                                           US 2001-811958
                                                            20010319
                                           JP 2001-81492
                       A2
                                                            20010321
     JP 2001316316
                            20011113
PRAI CH 2000-523
                            20000320
                       Α
    MARPAT 135:277773
OS
GΙ
```

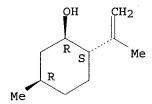
Ι

AB The compds. of the formula wherein R1 and R2 represent, independently from each other, a hydrogen atom or a Me group and R3 represents a linear or branched, saturated or unsatd., lower alkyl radical, in the form of an optically active isomer of the formula wherein the wavy line indicates one or other of the two possible orientations of the OH group, and mixts. of these isomers can be used to impart fragrances of the woody and amber-scented type, devoid of any animal/perspiration characteristics, to consumer products. Thus, (+)-(1'R,2S,3'S,6'S)-1-(2',2',3',6'-tetramethyl-1'-cyclohexyloxy)-2-pentanol (I) was prepared by the reaction of (+)-(1R,2S,3S,6S)-2,2,3,6-tetramethylcyclohexanol and (S)-1,2-epoxypentane. The addition of 100 parts of I to a base perfume intensified the patchouli note of the fragrance, imparting to it a more amber-scented, balsamic, almost juicy connotation.

RN 89-79-2 CAPLUS

CN Cyclohexanol, 5-methyl-2-(1-methylethenyl)-, (1R,2S,5R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



RN 5949-05-3 CAPLUS

CN 6-Octenal, 3,7-dimethyl-, (3S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

L39 ANSWER 4 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2001:624314 CAPLUS

DN 135:166938

TI Process for the preparation of a cyclic acetal of citronellal using expanded vermiculite as catalyst

IN Afonso do Nascimento, Evandro; Lemos de Morais, Sergio Antonio

PA Universidade Federal de Uberlandia, Brazil

SO Braz. Pedido PI, 10 pp.

CODEN: BPXXDX

DT Patent

LA Portuguese

FAN.CNT 1

PATENT NO. KIND DATE APPLICATION NO. DATE
PI BR 9805367 A 20000606 BR 1998-5367 19981110

PRAI BR 1998-5367 19981110 OS CASREACT 135:166938

GΙ

AB A process for the preparation of cyclic acetal I an insect repellent, along with other monoterpenoid cyclication products, via an acetalization reaction of citronellal using a vermiculite treated with a mineral acid as a catalyst. Thus, an aqueous soln of citronellal was heated at 150° for 3 h in the presence of the expanded vermiculite catalyst to give I, along with α -terpineol, isopulegol and neoisopulegol,.

IT 29141-10-4P, Neoisopulegol 50373-36-9P,

 (\pm) -Isopulegol

RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP

(Preparation)

(process for the preparation of a cyclic acetal of citronellal using an expanded vermiculite catalyst)

RN 29141-10-4 CAPLUS

CN Cyclohexanol, 5-methyl-2-(1-methylethenyl)-, (1R,2R,5S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.

RN 50373-36-9 CAPLUS

CN Cyclohexanol, 5-methyl-2-(1-methylethenyl)-, (1R,2S,5R)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.

IT **5949-05-3**, (-)-Citronellal

RL: RCT (Reactant); RACT (Reactant or reagent)
(process for the preparation of a cyclic acetal of citronellal using an expanded vermiculite catalyst)

RN 5949-05-3 CAPLUS

CN 6-Octenal, 3,7-dimethyl-, (3S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

L39 ANSWER 5 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2000:511292 CAPLUS

DN 134:136430

TI Composition and Stereoanalysis of Cymbopogon winterianus Jowitt Oil from Southern Brazil

AU Lorenzo, D.; Dellacassa, E.; Atti-Serafini, L.; Santos, A. C.; Frizzo, C.; Paroul, N.; Moyna, P.; Mondello, L.; Dugo, G.

CS Catedra de Farmacognosia, Facultad de Quimica, Universidad de la Republica, Montevideo, UR-11800, Urug.

SO Flavour and Fragrance Journal (2000), 15(3), 177-181 CODEN: FFJOED; ISSN: 0882-5734

PB John Wiley & Sons Ltd.

DT Journal

LA English

AB The hydrodistd. essential oil from aerial parts of C. winterianus, cultivated in Southern Brazil, was analyzed by GC-MS. Thirty-one components, representing 96% of the oil, were characterized. Enantiomeric ratios of limonene, linalool, citronellal and $\beta\text{-citronellol}$ were obtained by multidimensional gas chromatog., by using a developmental model set up with 2 GC ovens. The enantiomeric distributions are discussed as indicators of origin authenticity and quality of this oil.

IT 89-79-2, Isopulegol 5949-05-3, (-)-Citronellal
RL: ANT (Analyte); BOC (Biological occurrence); BSU (Biological study,
unclassified); ANST (Analytical study); BIOL (Biological study); OCCU
(Occurrence)

(composition and stereo anal. of Cymbopogon winterianus oil from Southern Brazil)

RN 89-79-2 CAPLUS

CN Cyclohexanol, 5-methyl-2-(1-methylethenyl)-, (1R,2S,5R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 5949-05-3 CAPLUS

CN 6-Octenal, 3,7-dimethyl-, (3S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 6 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1990:610353 CAPLUS

DN 113:210353

TI The chemical composition of Citrus hystrix DC (Swangi)

AU Sato, Akiyoshi; Asano, Kenichi; Sato, Toshiya

CS Cent. Res. Lab., Takasago Int. Corp., Tokyo, 144, Japan

SO Journal of Essential Oil Research (1990), 2(4), 179-83

CODEN: JEOREG; ISSN: 1041-2905

DT Journal

LA English

AB The chemical composition of the essential oils of the flavoring agent Swangi was

investigated by gas chromatog. and gas chromatog.-mass spectrometry. (-)-Citronellal was the main component (81%) of the leaf oil. It was also the main component of the twig oil (78.64%), and a major component of the peel oil (23.64%) in combination with β -pinene (25.93%) and sabinene (20.36%). In total, 57 constituents were characterized in the leaf oil. 2,6-Dimethyl-5-heptenal, citronellic acid, and safrole were more unusual components. An extract of the juice, which contained β -pinene (39.50%) and terpinen-4-ol (17.55%), was not very similar in composition to an extract

of the peel. This latter extract, which contained β -pinene (31.54%), sabinene (15.57%) and citronellal (16.80%), was qual. similar in composition to the peel oil.

RN 89-79-2 CAPLUS

CN Cyclohexanol, 5-methyl-2-(1-methylethenyl)-, (1R,2S,5R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 5949-05-3 CAPLUS

CN 6-Octenal, 3,7-dimethyl-, (3S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

L39 ANSWER 7 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1989:515597 CAPLUS

DN 111:115597

TI Large-scale preparation of pure (+)-(1S,2R,5S)-5-methyl-2-(1-methyl-1-phenylethyl)cyclohexanol

AU Buschmann, Helmut; Scharf, Hans Dieter

CS Inst. Org. Chem., RWTH Aachen, Aachen, D-5100, Fed. Rep. Ger.

SO Synthesis (1988), (10), 827-30 CODEN: SYNTBF; ISSN: 0039-7881

DT Journal

LA English

OS CASREACT 111:115597

GΙ

(S)-(-)-Pulegone (I) was prepared from (S)-(-)-citronellol on a preparative AB scale. I was readily converted into (+)-8-phenylmenthol II via a simplified literature procedure. With II available in larger amts. it can be used as a chiral auxiliary in stoichiometric asym. syntheses.

IT**5949-05-3P**, (S)-(-)-Citronellal RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and cyclization of)

5949-05-3 CAPLUS RN

6-Octenal, 3,7-dimethyl-, (3S)- (9CI) (CA INDEX NAME) CN

Absolute stereochemistry. Rotation (-).

IT 18674-65-2P 104870-56-6P 122517-60-6P

122517-61-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and oxidation of)

RN18674-65-2 CAPLUS

Cyclohexanol, 5-methyl-2-(1-methylethenyl)-, (1R,2S,5S)- (9CI) CN NAME)

Absolute stereochemistry.

RN104870-56-6 CAPLUS

Cyclohexanol, 5-methyl-2-(1-methylethenyl)-, (1S,2R,5S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

RN 122517-60-6 CAPLUS

CN Cyclohexanol, 5-methyl-2-(1-methylethenyl)-, (1R,2R,5S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

RN 122517-61-7 CAPLUS

CN Cyclohexanol, 5-methyl-2-(1-methylethenyl)-, [1S- $(1\alpha, 2\alpha, 5\alpha)$]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L39 ANSWER 8 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1987:213447 CAPLUS

DN 106:213447

TI Asymmetric cyclization of unsaturated aldehydes catalyzed by a chiral Lewis acid

AU Sakane, Soichi; Maruoka, Keiji; Yamamoto, Hisashi

CS Dep. Appl. Chem., Nagoya Univ., Nagoya, 464, Japan

SO Tetrahedron (1986), 42(8), 2203-9 CODEN: TETRAB; ISSN: 0040-4020

DT Journal

LA English

OS CASREACT 106:213447

GΙ

AB A highly enantioselective cyclization of unsatd. aldehydes was accomplished with the chiral zinc reagent I derived from Me2Zn and (R)-(+)-1,2'-bi-2-naphthol. Thus, aldehyde II is treated with I producing the trans alc. III with high optical purity. In contrast, aldehyde IV affords the totally racemic alc. V. Since I possesses C2-symmetry, either enantiomer can be prepared from the unsatd. aldehyde by choosing (R)-(+)- or (S)-(1-)-1,1'-bi-2-naphthol.

IT 5949-05-3

RL: RCT (Reactant); RACT (Reactant or reagent)
 (cyclization of, with chiral zinc reagent)

RN 5949-05-3 CAPLUS

CN 6-Octenal, 3,7-dimethyl-, (3S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

89-79-2P 104870-56-6P

RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of, via cyclization of unsatd. aldehyde with chiral zinc reagent)

RN 89-79-2 CAPLUS

IT

CN Cyclohexanol, 5-methyl-2-(1-methylethenyl)-, (1R,2S,5R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 104870-56-6 CAPLUS

CN Cyclohexanol, 5-methyl-2-(1-methylethenyl)-, (1S,2R,5S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

L39 ANSWER 9 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1986:591413 CAPLUS

DN 105:191413

TI Asymmetric cyclization of unsaturated aldehydes catalyzed by a chiral Lewis acid

AU Sakane, Soichi; Maruoka, Keiji; Yamamoto, Hisashi

CS Dep. Appl. Chem., Nagoya Univ., Nagoya, 464, Japan

SO Tetrahedron Letters (1985), 26(45), 5535-8

CODEN: TELEAY; ISSN: 0040-4039

DT Journal

LA English

OS CASREACT 105:191413

GI

AB A highly enantioselective cyclization of prochiral unsatd. aldehydes has been accomplished with a chiral Zn reagent I derived from dimethylzinc and (R)-1,1'-bi-2-naphthol. Thus, treatment of Me2C:CHCH2CH2CH2CH2CH0 with I gave alc. II in 91% yield and 90% enantiomeric excess.

IT 5949-05-3

RL: RCT (Reactant); RACT (Reactant or reagent)
 (asym. cyclization of)

RN 5949-05-3 CAPLUS

CN 6-Octenal, 3,7-dimethyl-, (3S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

IT 89-79-2P 104870-56-6P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of, by asym. cyclization of unsatd. aldehyde)

RN 89-79-2 CAPLUS

CN Cyclohexanol, 5-methyl-2-(1-methylethenyl)-, (1R,2S,5R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 104870-56-6 CAPLUS

CN Cyclohexanol, 5-methyl-2-(1-methylethenyl)-, (1S,2R,5S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

L46 ANSWER 1 OF 4 CASREACT COPYRIGHT 2004 ACS on STN

REF: Eur. Pat. Appl., 1225163, 24 Jul 2002

NOTE: stereoselective, other product detected, catalyst generated in-situ, optimization study

RX(2) OF 3

Me₂C CHO
$$\frac{C:2432-11-3}{PhMe}$$
 Ne Me

REF: Eur. Pat. Appl., 15 pp.; 2002 NOTE: stereoselective, catalyst generated in-situ, other product

detected

RX(3) OF 3

REF: Eur. Pat. Appl., 15 pp.; 2002 NOTE: catalyst generated in-situ

AN 137:124927 CASREACT

ΤI Process for producing isopulegol by citronellal selective cyclization over tris(2,6-diarylphenoxy)aluminum catalysts

Iwata, Takeshi; Okeda, Yoshiki; Hori, Yoji IN

PA Takasago International Corporation, Japan

SO Eur. Pat. Appl., 15 pp.

CODEN: EPXXDW

DTPatent

LA English

FAN.	CNT 1				
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1225163	A2	20020724	EP 2002-464	20020108
	EP 1225163	А3	20040114	•	
	R: AT, BE,	CH, DE,	DK, ES, FR,	GB, GR, IT, LI, LU	, NL, SE, MC, PT,

IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

 JP 2002212121
 A2
 20020731
 JP 2001-10527
 20010118

 US 2002133046
 A1
 20020919
 US 2002-45157
 20020115

PRAI JP 2001-10527 20010118

OS MARPAT 137:124927

GΙ

$$A1 \xrightarrow{\text{Ar}^1 \quad R^1} \\ Ar^2 \quad R^2$$

AB A process for producing L-isopulegol by simple operations with safety in high yield. A process for producing isopulegol, which comprises selectively cyclizing citronellal in the presence of a tris(2,6-diarylphenoxy)aluminum catalyst represented by the following general formula (I): wherein Al represents an aluminum atom, Ar1 and Ar2 each represent a substituted or unsubstituted aryl group or a heteroaryl group; and R1, R2 and R3 each represent a hydrogen atom, a halogen atom, an alkyl group having 1 to 8 carbon atom(s), an alkoxy group having 1 to 8 carbon atom(s), a substituted or unsubstituted aryl group, a dialkylamino group having 1 to 4 carbon atom(s), or a nitro group.

L46 ANSWER 2 OF 4 CASREACT COPYRIGHT 2004 ACS on STN

REF: Synthesis, (1), 52-54; 2001

NOTE: Al/Fe-Pillared clay catalyst, optimization study, stereoselective

AN 134:237661 CASREACT

TI Cyclization of citronellal to menthone and isomenthone catalyzed by Al/Fe-pillared clays

AU Cramarossa, Maria Rita; Forti, Luca; Pagnoni, Ugo Maria; Vidali, Maurizio

CS Dipartimento di Chimica, Universita di Modena e Reggio Emilia, Modena, 41100, Italy

SO Synthesis (2001), (1), 52-54 CODEN: SYNTBF; ISSN: 0039-7881

PB Georg Thieme Verlag

DT Journal

LA English

The cyclization of citronellal to a mixture of menthone and isomenthone (2:1) is catalyzed by Al/Fe-Pillared Clay (Al/Fe-PILC) at 80°C in 1,2-dichloroethane in good yield. At room temperature the products are isopulegol and neo-isopulegol, the isomer ratio depending on the reaction conditions.

RE.CNT 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L46 ANSWER 3 OF 4 CASREACT COPYRIGHT 2004 ACS on STN

RX(1) OF 14

REF: Chemistry Letters, (10), 1797-8; 1989

RX(3) OF 14

Chemistry Letters, (10), 1797-8; 1989

RX(4) OF 14

REF: Chemistry Letters, (10), 1797-8; NOTE: 5% overall

RX(6) OF 14

REF: Chemistry Letters, (10), 1797-8; 1989

RX(8) OF 14

REF: Chemistry Letters, (10), 1797-8; 1989

REF: Chemistry Letters, (10), 1797-8; 1989

REF: Chemistry Letters, (10), 1797-8; 1989

RX(14) OF 14

$$\begin{array}{c} \text{Me} \\ \text{OHC-CH}_2\text{-CH-CH}_2\text{-CH-CMe}_2 \end{array} \xrightarrow{\text{CaO, PhMe}} \begin{array}{c} \text{Me} \\ \text{Me} \end{array}$$

REF: Chemistry Letters, (10), 1797-8; 1989

AN 113:6607 CASREACT

TI Isomerizations of citronellal to isopulegol and geraniol to linalool catalyzed by solid acids and bases

AU Arata, Kazushi; Matsuura, Chiharu

CS Hokkaido Univ. Educ., Hakodate, 040, Japan

SO Chemistry Letters (1989), (10), 1797-8 CODEN: CMLTAG; ISSN: 0366-7022

DT Journal

LA English

GI

AB Citronellal was isomerized to isopulegol (I) over SiO2-Al2O3, TiO2-ZrO2, FeSO4, NiSO4, Ti(SO4)2, Zr(SO4)2, and Al2O3, with selectivity higher than 91%. Geraniol was also isomerized mainly to linalool over SiO2-Al2O3 and the four metal sulfates, and where the selectivity on SiO2-Al2O3 and FeSO4 was higher than 81%.

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RX(1) OF 13

Me
OHC-CH₂-CH-CH₂-CH=CM
$$\Theta_2$$

AlMe3, Hexane

REF: Nippon Kagaku Kaishi, (3), 324-7; 1985

RX(2) OF 13

REF: Nippon Kagaku Kaishi, (3), 324-7; 1985

RX(3) OF 13

REF: Nippon Kagaku Kaishi, (3), 324-7; 1985

REF: Nippon Kagaku Kaishi, (3), 324-7; 1985

RX(5) OF 13

$$\begin{array}{c} & \text{Me} \\ | \\ \text{OHC- CH}_2 - \text{CH- CH}_2 - \text{CH}_2 - \text{CH-----} \text{CMe}_2 \end{array}$$

AlMe3, ClCH2CH2Cl

REF: Nippon Kagaku Kaishi, (3), 324-7; 1985

AN 104:109961 CASREACT

TI Organoaluminum induced cyclization of unsaturated aldehydes

AU Sakane, Soichi; Maruoka, Keiji; Yamamoto, Hisashi

CS Dep. Appl. Chem., Nagoya Univ., Nagoya, 464, Japan

SO Nippon Kagaku Kaishi (1985), (3), 324-7 CODEN: NKAKB8; ISSN: 0369-4577

DT Journal

LA Japanese

AB Pronounced solvent and temperature effects on the course of trialkylaluminum-induced cyclization of unsatd. aldehydes were observed Thus, unimol. decomposition of the 1:1 complex of Me3Al-citronellal

at

-78°C to room temperature gave an acyclic methylated compound, isopulegol as a cyclization-deprotonation product, and/or a methylated cyclization product depending on the choice of solvents. The acyclic compound was obtained predominantly in hexane, while isopulegol was produced exclusively in (ClCH2)2. Furthermore, the methylated cyclization product was formed with the highest selectivity using excess Me3Al at low temperature In contrast, the 1:1 complex of other trialkylaluminum -citronellal complexes decomposed upon warming to room temperature to furnish a reduction product, citronellol, as a major product. Me2C:CHCH2CH2CMe2CH2CHO showed a similar variation in reactivity under the above conditions.